

NOVEMBER/DECEMBER 2025

**FMB62/CMB62 — INDUSTRIAL
MICROBIOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

What is the difference between primary and secondary metabolites?

2. Name two products obtained from *Streptomyces*.
3. Define bioreactor.
4. List out the two physical methods of media sterilization.
5. Mention two advantages of fermented foods.
6. Why is *Saccharomyces cerevisiae* considered ideal for bread making?
7. Why is glutamic acid commercially important?



8. Differentiate between homofermentative and heterofermentative lactic acid bacteria.
9. Mention two uses of microbial enzymes in industry.
10. Why is yeast the preferred organism for ethanol production?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the screening methods for isolating industrially useful microorganisms.

Or

- (b) Discuss the importance of strain improvement.

12. (a) Distinguish between batch and continuous fermentation.

Or

- (b) Outline the steps in downstream processing.

13. (a) Summarize Single Cell Protein (SCP) and its uses.

Or

- (b) Explain the process of yoghurt production.

14. (a) Discuss the industrial production of lactic acid.

Or

- (b) Apply the concept of microbes in lysine production.

15. (a) Summarize the production and uses of protease.

Or

- (b) Discuss the industrial production of ethanol.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Elaborate note on preservation techniques of production strains.
17. List out the different types of fermentation processes with examples.
18. Outline the production of fermented beverages like beer and wine in detail.
19. Discuss steroid transformations with microbial examples and applications.
20. Explain the microbial production of Vitamin B₁₂ with organisms and the process.